

### **REMARKS/ARGUMENTS**

Claims 1-30 are pending in the present application.

This Amendment is in response to the Office Action mailed October 1, 2009. In the Office Action, the Examiner rejected claims 27-30 under 35 U.S.C. §101; claims 1-6, 14-19, and 27-30 under 35 U.S.C. §102(e); claims 7, 12-13, 20, and 25-26 under 35 U.S.C. §103(a); and claims 8-11 under 35 U.S.C. §103(a). Reconsideration in light of the remarks made herein is respectfully requested.

#### ***Rejection Under 35 U.S.C. § 101***

Claims 27-30 are rejected under 35 U.S.C. § 101 because the claimed invention is allegedly directed to non-statutory subject matter.

Specifically, the Examiner contends that “the creator as per paragraph 31 of applicant’s specification is of software nature, e.g., ‘some module on the device may dynamically create a WEP key’. That is not a process, machine, manufacture or composition of matter as a per 35 U.S.C. 101.” (Office Action, pages 2-3, paragraph 4a.)

The Examiner further contends that “[a] claim language may be read in light of applicant’s specification. However, the claim language must be specific about the reference, i.e., the creator should be specifically referred to as a device, e.g. a computing device is used to create a WKG. Otherwise, the creator would be read as a person or a company as per paragraph 31 of applicant’s specification.” (Office Action, page 3, lines 3-9).

Applicant respectfully disagrees for the following reasons.

- a) **First, the Examiner merely states that “the creator .. is of software nature, .. [t]hat is not a process, machine, manufacture or composition of matter as a per 35 U.S.C. 101” without providing any analysis. Applicant submits that the module/device implementing the WKG creator is statutory, and even if it is implemented by software, claims 27-30 are statutory.**

A claimed process is statutory if it is limited to a practical application of the abstract idea or mathematical algorithm in the technological arts. See *Alappat*, 33 F.3d at 1543, 31 USPQ2d at 1556-57 (quoting *Diamond v. Diehr*, 450 U.S. at 192, 209 USPQ at 10). See also *Alappat* 33

F.3d at 1569, 31 USPQ2d at 1578-79 (Newman, J., concurring) ("unpatentability of the principle does not defeat patentability of its practical applications") (citing *O'Reilly v. Morse*, 56 U.S. (15 How.) at 114-19).

In its recently issued *en banc* majority opinion in *In re Bilski*, the U.S Court of Appeals for the Federal Circuit concludes that the "useful, concrete and tangible result" inquiry is inadequate and reaffirms that the machine-or-transformation test outlined by the Supreme Court is the proper test to apply. *In re Bilski*, 545 F.3d 943, 88 U.S.P.Q.2d 1385 (2008). Under the principles discussed in the *Bilski* decision, Applicant believes that claims 27-30 satisfy the machine-or-transformation test and are therefore statutory under 35 U.S.C. §101.

At the onset, the *Bilski* court emphatically states that "the proper inquiry under §101 is not whether the process claims recites sufficient 'physical steps,' but rather whether the claim meets the machine-or-transformation test." Accordingly, "a claim that purportedly lacks any 'physical steps' but is still tied to a machine or achieves an eligible transformation passes muster under §101." *In re Bilski*, 545 F.3d 943, 88 U.S.P.Q.2d 1385 (2008). The *Bilski* court focuses the analysis under the principle articulated by the Supreme Court that whether the claim recites a fundamental principle and if so, whether it would pre-empt substantially all uses of that fundamental principle if allowed. *Gottschalk v. Benson*, 409 U.S. 63, 71-72 (1972).

The *Bilski* court articulates the machine-or-transformation test as a two-branched inquiry. The *Bilski* court states that an applicant may show that a process claim satisfies §101 either by showing that his claim is tied to a particular machine, or by showing that his claim transforms an article, citing *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972). Applicant submits that claims 27-30 satisfy both tests as analyzed below.

1. Tying to a particular machine or apparatus:

In *Bilski*, the issues specific to the machine implementation part of the test are not before the court for review. The *Bilski* court therefore leaves to future cases the elaboration of the precise contours of machine implementation. However, there are a number of cases that have been decided by the court that provide clear guidelines in determining whether a claim is tied to a particular machine.

In *In re Abele*, when interpreting an earlier case, *In re Walter*, the court states that "Walter should be read as requiring no more than that the algorithm be 'applied in any manner to

physical elements or process steps,' provided that its application is circumscribed by more than a field of use limitation or non-essential post-solution activity. *In re Abele and Marshall*, 684 F.2d (CCPA 1982), 214 USPQ 682, 686 (CCPA 1982). The *Abele* court further states that if the claimed invention is an application of the algorithm, §101 will not bar the grant of a patent. *In re Abele*, 684 F.2d (CCPA 1982), 214 USPQ at 687 (CCPA 1982).

Accordingly, "tying to a particular machine" does not require that the process has to be performed by a machine. Rather, "tying to a particular machine" merely requires that the process is applied to a particular machine or apparatus, or a physical object. Assuming the process is an algorithm, applying the algorithm a particular apparatus is statutory.

An analysis of claim 27 shows that the process is applied a particular apparatus, satisfying the "tying to a particular apparatus" inquiry.

The first element of the claim recites "a well-known ad-hoc group (WKG) creator to create a WKG for impromptu interactions among unrelated mobile users, the WKG having a WKG network configuration and a set of WKG interaction protocols." Creating a WKG, where the WKG has a WKG network configuration and a set of WKG interaction protocols, is clearly tying to a particular apparatus. As discussed in the previous response, the WKG is a space that contains the mobile devices (e.g., 126<sub>1</sub>, 136<sub>1</sub>, etc. as shown in Figure 1). Creating a WKG therefore necessarily ties the particular apparatuses of the mobile devices.

The second element of the claim recites "a session-based ad-hoc group (SBG) creator to create a SBG within the WKG to allow a user to interact with other mobile users, the SBG being one of an open SBG and a restricted SBG, the SBG having SBG network configuration and a set of SBG interaction protocols, the SBG advertising information pertaining to the SBG on the WKG, the information including an access method for joining the restricted SBG." The operation here is to create a SBG within the WKG. Again, the SBG involves mobile devices (e.g., 125<sub>1</sub>, 135<sub>1</sub>, etc. as shown in Figure 1) which are clearly apparatuses. They are physical objects that involve in the communication and interactions among the mobile users. Therefore, the second element of the claim is also tied to a particular machine or apparatus.

In summary, since all the elements of the claim apply a process operation in WKG and SBG that involve mobile devices, network configuration, and interaction protocols, which are all related to a particular apparatus, they are all tied to a particular machine or apparatus.

As discussed above, In *In re Abele*, when interpreting an earlier case, *In re Walter*, the court states that “Walter should be read as requiring no more than that the algorithm be ‘**applied in any manner to physical elements**’ or process steps,”. *In re Abele and Marshall*, 684 F.2d (CCPA 1982), 214 USPQ 682, 686 (CCPA 1982) (Emphasis added.). In other words, the *Abele* court is clear to define that “tying to a particular machine” means the algorithm be applied in any manner to physical elements or process steps. This view has been recently reinforced further by the Federal Circuit in deciding *In re Comiskey*. In *In re Comiskey*, the Federal Circuit held that a claim can state statutory subject matter if “it is embodied in, **operates on**, transforms, **or otherwise involves** another class of statutory subject matter, i.e., a machine, manufacture, or composition of matter.” *In re Comiskey*, 554 F.3d 967, 975 (Fed. Cir. 2009) (Emphasis added.).

Nowhere in the Supreme Court or Federal Circuit court opinions that “tying to a particular machine” means that the physical objects must be required to perform the operations in the claims. The court opinions clearly state that as long as the operations **are applied to** physical elements, or **operate on** or **involves** a machine, the claim is statutory. Here, the operations of creating the WKG and the SBG are applied to mobile devices, or operate on or involve the mobile devices. Accordingly, claims 27-30 are statutory.

## 2. Transformation of an article:

In addition to tying to a particular machine or apparatus, the rejected claims also transform an article.

Claim 27 provides for creating a WKG for impromptu interactions among unrelated mobile users, the WKG having a WKG network configuration and a set of WKG interaction protocols. Accordingly, the claim, among other things, transforms a space of mobile devices into a WKG that provides impromptu interactions among unrelated mobile users and that has a WKG network configuration and a set of WKG interaction protocols. The claim further transforms a space of mobile devices into a SBG having SBG network configuration and a set of SBG interaction protocols. Since the WKG and the SBG include physical devices or articles, their transformation involves the transformation of articles.

The *Bilski* court is very clear about what it means by “article” in transforming an article. The *Bilski* court states that “[s]o long as the claimed process is limited to a practical application of a fundamental principle to transform specific data, and the claim is limited to a visual

depiction that represents specific physical objects or substances, there is no danger that the scope of the claim would wholly pre-empt all uses of the principle.” *In re Bilski*, 545 F.3d 943, 88 U.S.P.Q.2d 1385 (2008).

In discussing *Abele*, the *Bilski* court states that “the claim was not required to involve any transformation of the underlying physical object that the data represented.” *In re Bilski*, 545 F.3d 943, 88 U.S.P.Q.2d 1385 (2008). In other words, as long as a data represents a physical object, transformation of this data is sufficient to satisfy the transformation test. In *Abele*, the data represents the X-ray attenuation data produced in a two-dimensional field by a computed tomography scanner. The *Bilski* court states that this data clearly represents physical and tangible objects, namely the structure of bones, organs, and other body tissues. The *Bilski* court uses the “visual depiction” in *Abele* to illustrate the principle that “the claim was not required to involve any transformation of the underlying physical object that the data represented.” *In re Bilski*, 545 F.3d 943, 88 U.S.P.Q.2d 1385 (2008). As discussed above, as long as a data represents a physical object, transformation of this data is sufficient to satisfy the transformation test. Here, the process operations operate on physical objects including impromptu interactions among mobile devices, network configurations and interaction protocols. The WKG, SBG, mobile devices, the network configurations, etc. are all physical objects. The claim therefore transforms the physical objects or the data representing physical objects.

Accordingly, since claims 27-30 satisfy not just one, but BOTH the *Bilski* tests, claims 27-30 are statutory under 35 U.S.C. §101

**b) Second, claims must be interpreted according to the Specification.**

During patent examination, the pending claims must be “given the broadest reasonable interpretation consistent with the specification”. See MPEP § 2111. The response to the previous Office Action has established that “a WKG may be created and/or joined by any device...” and “devices in a WKG create an SBG” (See Specification, par. [0019]-[0020], for further details). As further stated in the specification and illustrated in Figure 1: “Each of the mobile devices 126<sub>1</sub> to 126<sub>L</sub>, 136<sub>1</sub> to 136<sub>P</sub>, and 140<sub>1</sub> to 140<sub>N</sub> typically contains a mobile processor that can execute instructions or programs to perform tasks as described in the following. Each of them may also be equipped by one or multiple WiFi radios or interface

cards” (See Specification, par. [020], Figure 1, for further details). *Emphasis Added*. Given that the device is an apparatus which is statutory, the system claims 27-30 are directed to statutory subject matter. Applicant submits that the WKG creator and SBG creator represent physical entities such that the claims tie the elements to a particular machine. In addition, Figure 2 in the Specification clearly shows the WKG creator as a box labeled 210. The WKG creator 210 is a device that creates the WKG.

The Examiner’s literal interpretation of the language that “the WKG creator 210 may be any entity such as a company, a government agency, an open source community, or even an individual,” as provided in the Specification, is misplaced. The description should be read and interpreted according to the context. First, the phrase “WKG creator 210 may be any entity” indicates that this is one of several possible embodiments. Second, the term “entity” refers to “something that exists as a particular and discrete unit” (See, for example, Webster’s II New College Dictionary, 1995, by Houghton Mifflin Company). Accordingly, the term “entity” may refer to a device, a unit, a system. Third, the phrase “such as” in the above refers to a list of exemplary entities, not necessarily exhaustive. Fourth, a company, a government agency, or an individual refers to the owner or the operator of the WKG creator. It is clear that in order to create the WKG, a company or an individual has to use some specific device to carry out the creation.

**c) Third, as required by the MPEP, the burden is on the USPTO to set forth a prima facie case of unpatentability. MPEP 2106 IV.B.**

USPTO personnel should review the totality of the evidence (e.g., the specification, claims, relevant prior art) before reaching a conclusion with regard to whether the claimed invention sets forth patent eligible subject matter. USPTO personnel must weigh the determinations made above to reach a conclusion as to whether it is more likely than not that the claimed invention as a whole either falls outside of one of the enumerated statutory classes or within one of the exceptions to statutory subject matter. "The examiner bears the initial burden of presenting a *prima facie* case of unpatentability." *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). If the record as a whole suggests that it is more likely than not that the claimed invention would be considered a practical application of an abstract idea,

natural phenomenon, or law of nature, then USPTO personnel should not reject the claim. MPEP 2106 IV.D. After USPTO personnel identify and explain in the record the reasons why a claim is for an abstract idea with no practical application, then the burden shifts to the applicant to either amend the claim or make a showing of why the claim is eligible for patent protection. See, e.g., *In re Brana*, 51 F.3d 1560, 1566, 34 USPQ2d 1436, 1441 (Fed. Cir. 1995) MPEP 2106 IV.D. Here, the Examiner has not met the burden of establishing a prima facie case of unpatentability because the Examiner has not proved that the claim is for an abstract idea with no practical application.

The specification provides ample support that the operations recited in the rejected claims are within the statutory subject matter. As discussed above, the operations recited in the rejected claims operate on physical objects or elements. In addition, they are part of a physical system involving mobile devices, physical spaces, physical access points. See, for example, Specification, paragraphs [0016] – [0020].

In summary, the rejected claims satisfy not only one, but both the machine and transformation tests as articulated by the Supreme Court and the Court of Appeals for the Federal Circuit. Furthermore, the scope of the claim in the principles of performance simulation is such that there is no danger that it would wholly pre-empt all uses of the principle.

Accordingly, Applicant submits that claims 27-30 are statutory under 35 U.S.C. §101 and respectfully requests the rejections be withdrawn.

### ***Rejection Under 35 U.S.C. § 102***

In the Office Action, the Examiner rejected claims 1-6, 14-19, and 27-30 under 35 U.S.C. §102(e) as being anticipated by U.S. Publication No. 2004/0133689 A1 issued to Vasisht et al. ("Vasisht"). Applicant respectfully traverses the rejection and submits that the Examiner has not met the burden of establishing a *prima facie* case of anticipation.

Vasisht discloses method, system and device for automatically configuring a communications network. Improvements in configuring node devices for networking include a Zero Configuration Utility for WiFi that gives users a list of available WiFi networks. If the networks are broadcasting their SSID and do not have encryption, the user can log on to the network by simply accepting a network in the Zero Configuration Utility interface. (Vasisht, par.

[0018]). In the case of a network using 802.11 b, at minimum a Service Set Identifier (or SSID) is required on each 802.11 b-equipped router (Vasisht, par. [0013]).

Vasisht does not disclose, either expressly or inherently, at least one of: (1) creating a session-based ad-hoc group (SBG) within a well-known ad-hoc group (WKG) for impromptu interactions among unrelated mobile users, the WKG having a WKG network configuration and a set of WKG interaction protocols, the SBG having SBG network configuration and a set of SBG interaction protocols; and (2) advertising information pertaining to the SBG on the WKG, as recited in independent claims 1 and 14, and (3) a well-known ad-hoc group (WKG) creator to create a WKG for impromptu interactions among unrelated mobile users, the WKG having a WKG network configuration and a set of WKG interaction protocols; and (4) a session-based ad-hoc group (SBG) creator to create a SBG within the WKG to allow a user to interact with other mobile users, the SBG having SBG network configuration and a set of SBG interaction protocols, the SBG advertising information pertaining to the SBG on the WKG, as recited in amended independent claim 27.

First, Vasisht merely discloses home networks having 802.11b equipped routers with the same default service set identifier (SSID) setting on each device (Vasisht, par. [0005], lines 1-3; par. [0009], lines 15-17), not for impromptu interactions among unrelated mobile users. For routers supporting WiFi, the SSID is defaulted to a standard factory default (Vasisht, par. [0014], lines 10-11). The user still has to acknowledge and enter the same SSID on the node devices (Vasisht, par. [0016], lines 8-9). Since all the node devices have the same SSID and are connected to the same home network, they are not unrelated mobile users. Furthermore, the interactions of these node devices occur under a configuration or coordination, either through a zero configuration utility (Vasisht, par. [0018], lines 1-5), or an automatic configuration (Vasisht, par. [0023], lines 6-7). Accordingly, these interactions are not impromptu interactions. An impromptu interaction is an interaction that occurs in a coincidental way without any pre-coordination. (See, for example, Specification, par. [0014], lines 4-5).

Second, Vasisht merely discloses improvements in configuring node devices for networking (Vasisht, par. [0018]), not “creating a session-based ad-hoc group (SBG) within a well-known ad-hoc group (WKG) for impromptu interactions among unrelated mobile users”, as recited in the rejected claims. The improvements include a Zero Configuration Utility for WiFi



that gives users a list of available WiFi networks (Vasisht, par. [0018]). The Examiner alleges a selected WiFi network is the same as “a session-based ad-hoc group (SBG) within a well-known ad-hoc group (WKG) for impromptu interactions among unrelated mobile users” (Final Office Action, page 3, par. 3a). Applicant respectfully disagrees for the following reasons. The WiFi networks which appear on the list are merely available WiFi networks, which may or may not require authentication or an encryption key, and the user may select one of the networks on the list in order to log his computer onto that selected network (Vasisht, par. [0018]). In contrast, a SBG is created within the WKG and is typically a group created by users for a specific purpose that is limited in term of lifetime, membership, or applications that it supports. The SBG may be created to avoid the noisy WiFi frequency used by the WKG or to provide a private session for security reasons or to avoid processing data from other devices (See Specification, par. [0024]-[0027], for further details). Since the WiFi network are available networks, they are not created under a specific purpose as a SBG.

Third, Vasisht merely discloses a Service Set Identifier (or SSID) being required on each 802.11 b-equipped router (Vasisht, par. [0013]), not “advertising information pertaining to the SBG on the WKG”, as recited in the claims. As discussed above, the available WiFi networks are not equivalent to the SBG, such that the SSID of a WiFi network cannot be the “information pertaining to the SBG”.

Fourth, even if the WiFi networks were equivalent to the SBG, the SSID is not “an access method for joining the restricted SBG”, as recited in the claims, because SSID is used only to allow a user to log on “should the network require authentication or an encryption key” (Vasisht, par. [0018]). Logging on is merely to log on to use the WiFi networks, but not to join a group. Moreover, the WiFi networks as disclosed by Vasisht do not have open and restricted groups, therefore, logging on merely allows user to log on a WiFi network, not to join the group which requires a membership to be granted.

In the Response to Arguments section of the Office Action, the Examiner states the Examiner does not see a difference between using WiFi access point or using Wi Fi ad-hoc network in terms of interactions among unrelated mobile users (Office Action, page 12, paragraph 8b). The Examiner further states that it is not clear if the pertaining limitation is different in scope from what is disclosed per paragraph 18 of Vasisht (Office Action, page 12,

paragraph 8c). However, paragraph [0018] is merely a part of the disclosure. For ease of reference, the relevant paragraphs are copied below.

“Recognizing the problems associated with complexity of setting up home networks, manufacturers of home networking products have made improvements to product features described hereunder in the context of configuring required networking parameters. Some examples of improvements to the description above have been incorporated recently in available routers, and described here. Routers are commonly defaulted with LAN NAT and DHCP settings as "ON", recognizing that most users use this configuration. For routers supporting WiFi, the SSID is defaulted to a standard factory default (e.g. Linksys routers have a default SSID of `linksys`), and WEP is `OFF` in order to enable the user to follow fewer steps to set up the network. Typically the WEP key is an ASCII or Hexadecimal (HEX) string. In order to simplify the entry of a WEP key, some manufacturers allow the user to enter a password or pass phrase that then generates an ASCII or HEX WEP key.” (Vasisht, paragraph [0014]. Emphasis added.)

“Some of the problems that still exist in current routers despite the above improvements are: In setting up the router, the user has to know whether the ISP requires settings other than modem's MAC address to authenticate the user. If so, the user has to configure the router accordingly with settings obtained from the ISP, or settings obtained from the device connected to the ISP. Whereas the SSID may be defaulted in the router, the user still has to acknowledge and enter the same SSID on the node devices (e.g., PCs). Further since routers from the manufacturer are defaulted to the same SSID, the user is advised to change the SSID manually to ensure privacy of her network. In addition, users should use WEP at minimum to secure their network from snooping, since SSID is not secure. Defaulting to WEP "OFF" is therefore well recognized as a fundamental flaw in current solutions. In order to turn WEP (or another form of encryption such as WPA) "ON" requires the user to enter an encryption code or `pass phrase` on the router, and the same code on the PCs.” (Vasisht, paragraph [0016]. Emphasis added.)

“Improvements in configuring node devices for networking include, in the Windows XP operating system, introduction by Microsoft of a Zero Configuration Utility for WiFi that gives users a list of available WiFi networks. If the networks are broadcasting their SSID and do not have encryption, the user can log on to the network by simply accepting a network in the Zero Configuration Utility interface. However, should the network require

authentication or an encryption key, the user has to enter this information. Consequently, Microsoft's Zero Configuration Utility for WiFi in Windows XP reduces the steps for configuring a WiFi NIC in some instances, but not always. Microsoft's configuration utility supplied with its line of WiFi home networking adapters (e.g., Model: MN 520 PC card) provides a feature to enable a user to backup or copy on floppy network entries made on a PC. This permits ease of transfer of network settings to other node devices, thereby minimizing repeated manual entries of the required setting on subsequent network PCs.” (Vasisht, paragraph [0018]. Emphasis added.)

“Therefore, there is a need for a system and method that overcome the above and other problems with the above-noted methods and systems. The above and other needs are addressed by the exemplary embodiments of the present invention, which provide a system and method for automatically configuring devices in a communications network, such as a home network, a Small Office Home Office (SOHO) network, and the like, with minimal user input or networking expertise. (Vasisht, paragraph [0023]. Emphasis added.)

As seen from the above excerpts, Vasisht merely discloses that all the node devices have the same SSID and are connected to the same home network. Accordingly, *they are not unrelated mobile users*, as recited in the claim. Furthermore, Vasisht merely discloses that the interactions of these node devices occur under a configuration or coordination, either through a zero configuration utility or an automatic configuration. Accordingly, these interactions are not *impromptu interactions*, as recited in the rejected claims. An impromptu interaction is an interaction that occurs in a coincidental way without any pre-coordination. (See, for example, Specification, par. [0014], lines 4-5).

Applicant incorporates the arguments presented in the previous response. For example, as discussed in the previous response, Applicant submits that both the SSID and the WEP in Vasisht pertain to the available WiFi networks which cannot correspond to the SBG. Accordingly, neither the SSID nor the WEP can be the information on the SBG as discussed above.

Additionally, the specification states: “In a WiFi network, the well-known network configuration may include the SSID and the encryption key”(See Specification, par. [018]) and “the advertising node 410 collects information on the SBG 310 such as the SSID, the

membership, the interaction protocols used, and the login procedure” (See Specification, par. [040]). Contrary to that alleged by the Examiner, the SSID cannot be the information on the SBG because the claims further recite “advertising information pertaining to the SBG on the WKG, the information including an access method for joining the restricted SBG.”

In paragraph [040], the specification provides four examples of information on the SBG such as “the SSID, the membership, the interaction protocols used, and the login procedure” (Specification, paragraph [040]). While the SSID is an example of information on the SBG, Applicant elected to claim “the information including an access method for joining the restricted SBG.” Since the SSID does not include an access method for joining the restricted SBG, the SSID cannot be the information on the SBG as delineated in the claims.

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Vergeaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ 2d 1051, 1053 (Fed. Cir. 1987). “The identical invention must be shown in as complete detail as is contained in the...claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ 2d 1913, 1920 (Fed. Cir. 1989). The Examiner bears the burden of presenting at least a *prima facie* case of anticipation. *In re King*, 801 F.2d 1324, 1327, 231 USPQ 136, 138-139 (Fed. Cir. 1986); *In re Wilder*, 429 F.2d 447, 450, 166 USPQ 545, 548 (CCPA 1970). Only if that burden is met, does the burden of going forward shift to the applicant. *In re King*, 801 F.2d at 1327, 231 USPQ at 138-139; *In re Wilder*, 429 F.2d at 450, 166 USPQ at 548. Once a *prima facie* case is established and rebuttal evidence is submitted, the ultimate question becomes whether, based on the totality of the record, the Examiner carried his burden of proof by a preponderance. See *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). If the Examiner fails to establish a *prima facie* case, the rejection is improper and will be overturned. *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). Since the Examiner failed to show that Vasisht teaches or discloses any one of the above elements, the rejection under 35 U.S.C. §102 is improper.

Therefore, Applicant submits that independent claims 1, 14, and 27 and their respective dependent claims are distinguishable over the cited prior art references. Accordingly, Applicant respectfully requests the rejection under 35 U.S.C. §102(e) be withdrawn.

***Rejection Under 35 U.S.C. § 103***

In the Office Action, the Examiner rejected claims 7, 12-13, 20, and 25-26 under 35 U.S.C. §103(a) as being unpatentable over Vasisht and further in view of U.S. Patent No. 7,284,062 B2 issued to Krantz et al. ("Krantz"), and Feeney et al. (Communications Magazine, IEEE, June 2001, p. 176-181 or p.1-12 per Applicant's disclosed NPL) ("Feeney"); and claims 8-11 under 35 U.S.C. §103(a) as being unpatentable over Vasisht and further in view of Feeney. Applicant respectfully traverses the rejection and submits that the Examiner has not met the burden of establishing a *prima facie* case of obviousness.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *MPEP §2143, p. 2100-126 to 2100-130 (8th Ed., Rev. 5, August 2006)*. Applicant respectfully submits that there is no suggestion or motivation to combine their teachings, and thus no *prima facie* case of obviousness has been established.

Furthermore, the Supreme Court in *Graham v. John Deere*, 383 U.S. 1, 148 USPQ 459 (1966), stated: "Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined." MPEP 2141. In *KSR International Co. vs. Teleflex, Inc.*, 127 S.Ct. 1727 (2007) (Kennedy, J.), the Court explained that "[o]ften, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue." The Court further required that an explicit analysis for this reason must be made. "[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *KSR 127 S.Ct.* at 1741, quoting *In re Kahn*, 441 F.3d 977, 988

(Fed. Cir. 2006). In the instant case, Applicant respectfully submits that there are significant differences between the cited references and the claimed invention and there is no apparent reason to combine the known elements in the manner as claimed, and thus no *prima facie* case of obviousness has been established.

Vasisht discloses method, system and device for automatically configuring a communications network as discussed above.

Krantz discloses increasing the level of automation when provisioning a computer system to access a network. Data routing device is a device capable of grouping computer systems together in a single broadcast domain (Krantz, col. 12, lines 27-31).

Feeney discloses spontaneous networking: an application-oriented approach to ad-hoc networking. An ad hoc network provides administrative services and supports functionalities including address allocation, name resolution, service location, authentication, and access control policies (Feeney, Abstract).

Vasisht, Krantz, and Feeney, taken alone or in any combination, do not disclose or render obvious (1) creating a session-based ad-hoc group (SBG) within a well-known ad-hoc group (WKG) for impromptu interactions among unrelated mobile users, the WKG having a WKG network configuration and a set of WKG interaction protocols, the SBG having SBG network configuration and a set of SBG interaction protocols; and (2) advertising information pertaining to the SBG on the WKG, as recited in independent claims 1 and 14, and (3) a well-known ad-hoc group (WKG) creator to create a WKG for impromptu interactions among unrelated mobile users, the WKG having a WKG network configuration and a set of WKG interaction protocols; and (4) a session-based ad-hoc group (SBG) creator to create a SBG within the WKG to allow a user to interact with other mobile users, the SBG having SBG network configuration and a set of SBG interaction protocols, the SBG advertising information pertaining to the SBG on the WKG, as recited in amended independent claim 27; and (5) selecting an advertising node according to a criteria within the SBG; (6) collecting information on the SBG; (7) periodically joining the WKG to broadcast the SBG information and to collect information on the WKG or a nearby SBG; and (8) returning to the SBG to advertise the information collected on the WKG to SBG members, as recited in claims 7 and 20.

As discussed above, Vasisht does not disclose or render obvious elements (1)-(4) as recited in independent claims 1, 14, and 27. Accordingly, a combination of Vasisht with any other references in rejecting claims dependent thereon is improper.

Furthermore, Feeney merely discloses an ad hoc network providing administrative services and supporting functionalities including address allocation, name resolution, service location, authentication, and access control policies (Feeney, Abstract), and Krantz merely discloses a data routing device being a device capable of grouping computer systems together in a single broadcast domain (Krantz, col. 12, lines 27-31). None of these is related to the claimed invention. For example, address allocation merely allocates the addresses for a network. Name resolution merely tries to resolve some of the numerical address values into a human readable format. These operations only relate to access a network. Accessing a network does not necessarily involve selecting an advertising node according to a criteria within the SBG; collecting information on the SBG; periodically joining the WKG to broadcast the SBG information and to collect information on the WKG or a nearby SBG; and returning to the SBG to advertise the information collected on the WKG to SBG members.

The Examiner alleges that it would have been obvious to modify Vasisht's functions of using WEP/802.11 in configuring a user network with limit access with Feeney's functions of establishing ad hoc network without pre-established or central network management and Krantz's functions of using a data routing device to group computer systems. Applicant respectfully disagrees.

Claims 7 and 20 recite "selecting an advertising node according to a criteria within the SBG; collecting information on the SBG; periodically joining the WKG to broadcast the SBG information and to collect information on the WKG or a nearby SBG; and returning to the SBG to advertise the information collected on the WKG to SBG members".

As provided above, the WiFi networks in Vasisht are not the same as SBG. In addition, none of the functionalities including address allocation, name resolution, service location, authentication, and access control policies, as provided in Feeney, involve at least "collecting information on the WKG... and advertise the information collected on the WKG to SBG members" as recited in the claims. Furthermore, Krantz merely discloses a data routing device

which does not disclose either a WKG or a SBG, let alone any of the elements as delineated in claims 7 and 20.

Applicant respectfully submits that for the Examiner to conclude that the elements as recited in claims 7 and 20 are disclosed by a combination of Vasisht's list of available WiFi networks which may require a WEP key to log on, Feeney's list of functionalities such as address allocation to be supported by an ad hoc network, and Krantz's teaching of a mere router, is a leap of logic.

In the Office Action, the Examiner states that Vasisht discloses "criteria" implicitly in paragraph [0079] (Office Action, page 14, paragraph 8g). For ease of reference, the cited paragraph is copied below.

"When executed, the configuration manager generates the employed network settings, and through a sequence of mostly automated steps requiring minimal user inputs, configures one or more network devices based on the NID, predetermined network configuration criteria, and automatically generated settings. In addition to using the configuration manager to establish an initial configuration of the home network 200, a user can restore a device 212 or 208 on the home network 200 in the event of a malfunction or breakdown of the network through reinstating the automated configuration; or to add new node devices 212 to the existing home network 200 originally set up based on the exemplary embodiments. This capability is advantageous for troubleshooting and maintaining the home network by a lay user." (Vasisht, paragraph [0079]. *Emphasis added.*)

As seen from the above excerpt, Vasisht merely discloses predetermined network configuration criteria, not a criteria within the SBG. A predetermined network configuration criteria are criteria related to the configuration of the network. In contrast, criteria within the SBG may include the trustworthiness of the node, the access versatility of the device (e.g., having multiple WiFi cards) (See, for example, Specification, paragraph [039]).

The Examiner further contends that the reference cited from Krantz is used to show "criteria" more explicitly (Office Action, page 14, paragraph 8g). However, the Examiner has not provided specific reference including column number and line numbers in Krantz that shows this reference.



The Examiner failed to establish a prima facie case of obviousness and failed to show there is teaching, suggestion, or motivation to combine the references. When applying 35 U.S.C. 103, the following tenets of patent law must be adhered to: (A) The claimed invention must be considered as a whole; (B) The references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination; (C) The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention; and (D) Reasonable expectation of success is the standard with which obviousness is determined. *Hodosh v. Block Drug Co., Inc.*, 786 F.2d 1136, 1143 n.5, 229 USPQ 182, 187 n.5 (Fed. Cir. 1986). "When determining the patentability of a claimed invention which combined two known elements, 'the question is whether there is something in the prior art as a whole suggest the desirability, and thus the obviousness, of making the combination.'" *In re Beattie*, 974 F.2d 1309, 1312 (Fed. Cir. 1992), 24 USPQ2d 1040; *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 1462, 221 USPQ (BNA) 481, 488 (Fed. Cir. 1984). To defeat patentability based on obviousness, the suggestion to make the new product having the claimed characteristics must come from the prior art, not from the hindsight knowledge of the invention. *Interconnect Planning Corp. v. Feil*, 744 F.2d 1132, 1143, 227 USPQ (BNA) 543, 551 (Fed. Cir. 1985). To prevent the use of hindsight based on the invention to defeat patentability of the invention, this court requires the Examiner to show a motivation to combine the references that create the case of obviousness. In other words, the Examiner must show reasons that a skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the prior elements from the cited prior references for combination in the manner claimed. *In re Rouffet*, 149 F.3d 1350 (Fed. Cir. 1996), 47 USPQ 2d (BNA) 1453. "To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or implicitly suggest the claimed invention or the Examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." *Ex parte Clapp*, 227 USPQ 972, 973. (Bd.Pat.App.&Inter. 1985). The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). Furthermore, although a prior art device "may be capable of

being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so.” *In re Mills*, 916 F.2d at 682, 16 USPQ2d at 1432; *In re Fritch*, 972 F.2d 1260 (Fed. Cir. 1992), 23 USPQ2d 1780.

Moreover, the Examiner failed to establish the factual inquires in the three-pronged test as required by the *Graham* factual inquires. There are significant differences between the cited references and the claimed invention as discussed above. Furthermore, the Examiner has not made an explicit analysis on the apparent reason to combine the known elements in the fashion in the claimed invention. Accordingly, there is no apparent reason to combine the teachings of Vasisht, Krantz, and Feeney in any combination.

In the present invention, the cited references do not expressly or implicitly disclose any of the above elements. In addition, the Examiner failed to present a convincing line of reasoning as to why a combination of Vasisht, Krantz, and Feeney is an obvious application of “discovering nearby hosts and applications for impromptu interactions using well-known ad-hoc network configuration”, or an explicit analysis on the apparent reason to combine Vasisht, Krantz, and Feeney in the manner as claimed.

Therefore, Applicant believes that independent claims 1, 14, and 27 and their respective dependent claims are distinguishable over the cited prior art references. Accordingly, Applicant respectfully requests the rejection under 35 U.S.C. §103(a) be withdrawn.

***Conclusion***

Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

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